Mr. Mark Schmidt
Royal Imprints
711 Gerber Street
Ligonier, Indiana 46767

Re: Registration No. 113-15074-00078

Dear Mr. Schmidt:

The application from Royal Imprints, received on November 19, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following equipment used in the commercial printing products located at 711 Gerber Street, Ligonier, Indiana, are classified as registered:

(a) Three (3) Lithographic Sheet-Fed printing presses, identified as EU01, EU04, and EU05. Printing presses EU01 and EU-04 each has a maximum printing area of 173.25 square inch (in^2) and a maximum ink coverage of 1.143 $x10^{-6}$ pound per square inch (lb/in^2). Printing press EU05 has a maximum printing area of 114 square inch (in^2) and a maximum ink coverage of 1.143 x 10^{-6} pound per square inch (lb/in^2). Each press has a natural gas-fired Thermographer dryer with a heat input capacity of 0.112 million British Thermal Units per hour (mmBtu/hr);

(b) Three (3) Lithographic Sheet-Fed printing presses, identified as EU02, EU03, and EU06 each with a maximum printing area of 239.63 in^2 and a maximum ink coverage of 1.143 $x10^{-6}$ lb/in2. Each press is equipped with a natural gas-fired Thermographer dryer with a heat input capacity of 0.112mmBtu/hr;

(c) Two (2) Heidelberg Platten Presses, identified as EU07 and EU08, each with a maximum printing area of 150 in^2 and a maximum ink coverage of 1.143 $x10^{-6}$ lb/in2;

(d) One (1) Lead Typesetting, identified as EU09, rated at 0.43 pound of lead per hour;

(e) Two (2) Risograph Duplicator, identified as EU10 and EU11 with a maximum capacity if 7,200 sheets per hour, each with a natural gas-fired Thermograph dryer, with a heat input of 0.112 mmBtu/hr;

(f) Eight (8) various natural gas-fired building heaters, with a total heat input capacity of 1.11 mmBtu/hr;

(g) Three (3) Gluing machines capable of using 0.5 pound of glue per hour; and

(h) Three (3) Mitsubishi Platemakers capable of using 0.30 pound of material per hour.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary

Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 6-3-2 (Process Operations), the PM emissions from the Lead Typesetting facility shall be limited to 0.551 pound per hour at a process weight rate less than 100 pounds per hour.

(3) Any change or modification which may increase the potential volatile organic compounds (VOC) emissions to 25 tons per year or more from the equipment covered in this registration must be approved by the Office of Air Quality (OAQ) before such change may occur.

(4) Any change or modification which may increase the single HAP potential to emit to 10 tons per year or more or combined HAPs to 25 tons per year or more from the equipment covered in this registration must be approved by the Office of Air Quality (OAQ) before such change may occur.

This registration is a revised registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3)). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

mm

cc: File - Noble County
Noble County Health Department
Air Compliance - Doyle Houser
Northern Regional Office
Permit Tracking - Janet Mobley

Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak
Office of Enforcement

Registration

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	**Royal Imprints**
Address:	**711 Gerber Street**
City:	**Ligonier**
Authorized individual:	**Mark Schmidt**
Phone #:	**(219) 894-3151**
Registration #:	**113-15074-00078**

I hereby certify that **Royal Imprints** is still in operation and is in compliance with the requirements of Registration **113-15074-00078**.

Name (typed):	
Title:	
Signature:	
Date:	

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	Royal Imprints
Source Location:	711 Gerber Street, Logonier, Indiana 46767
County:	Noble
SIC Code:	2752
Registration No.:	113-15074-00078
Permit Reviewer:	Madhurima D. Moulik

The Office of Air Quality (OAQ) has reviewed an application from Royal Imprints relating to the operation of a stationary source that prints commercial printing products, which includes the following equipment:

(a) Three (3) Lithographic Sheet-Fed printing presses, identified as EU01, EU04, and EU05. Printing presses EU01 and EU04 each has a maximum printing area of 173.25 square inch (in^2) and a maximum ink coverage of 1.143 $x10^{-6}$ pound per square inch (lb/in^2). Printing press EU05 has a maximum printing area of 114 square inch (in^2) and a maximum ink coverage of 1.143 x 10^{-6} pound per square inch (lb/in^2). Each press has a natural gas-fired Thermographer dryer with a heat input capacity of 0.112 million British Thermal Units per hour (mmBtu/hr);

(b) Three (3) Lithographic Sheet-Fed printing presses, identified as EU02, EU03, and EU06 each with a maximum printing area of 239.63 in^2 and a maximum ink coverage of 1.143 $x10^{-6}$ lb/in2. Each press is equipped with a natural gas-fired Thermographer dryer with a heat input capacity of 0.112mmBtu/hr;

(c) Two (2) Heidelberg Platten Presses, identified as EU07 and EU08, each with a maximum printing area of 150 in^2 and a maximum ink coverage of 1.143 $x10^{-6}$ lb/in2;

(d) One (1) Lead Typesetting, identified as EU09, rated at 0.43 pound of lead per hour;

(e) Two (2) Risograph Duplicator, identified as EU10 and EU11 with a maximum capacity if 7,200 sheets per hour, each with a natural gas-fired Thermograph dryer, with a heat input of 0.112 mmBtu/hr;

(f) Eight (8) various natural gas-fired building heaters, with a total heat input capacity of 1.11 mmBtu/hr;

(g) Three (3) Gluing Machines capable of using 0.5 pound of glue per hour; and

(h) Three (3) Mitsubishi Platemakers capable of using 0.30 pound of material per hour.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
SV01	Lithographic press with Thermographer	19	0.58	-	660
SV02	Lithographic press with Thermographer	19	0.58	-	660
SV03	Lithographic press with Thermographer	19	0.58	-	660
SV04	Lithographic press with Thermographer	19	0.58	-	660
SV05	Lithographic press with Thermographer	19	0.58	-	660
SV06	Lithographic press with Thermographer	19	0.58	-	660
SV07	Natural Gas-Fired Heaters	19	0.58	-	660
SV08		19	0.58	-	660
SV09					
SV12		19	0.58	-	660
Sv13		19	0.58	-	660
SV14		19	0.58	-	660
SV15		19	0.58	-	660
SV10	Risograph Duplicator with Thermograph	19	0.58	-	660
SV11	Risograph Duplicator with Thermograph	19	0.58	-	660

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and

additional information submitted by the applicant.

A complete application for the purposes of this review was received on November 19, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.0177
PM-10	0.067
SO_2	0.005
VOC	21.75
CO	0.734
NO_x	0.879

HAP's	Potential To Emit (tons/year)
Lead	0.0002
TOTAL	0.0002

(a) The potential to emit of VOC is greater than 10 tons per year but less than 25 tons per year. Therefore, pursuant to 326 IAC 2-5.5(b), a registration is granted.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore,

VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Noble County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (tons/yr)
PM	0.0177
PM-10	0.067
SO_2	0.005
VOC	21.75
CO	0.734
NO_x	0.879

(a) This source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:
(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This is a re-registration issued to this source.

Federal Rule Applicability

(a) New Source Performance Standards (NSPS):

(1) 40 CFR, § 60.430, Subpart QQ - Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing: This standard applies to each publication rotogravure printing press, that commences construction, modification, or reconstruction after October 28, 1980.

The six (6) Lithographic Sheet-Fed presses, EU01 through EU06; and Platten Presses, EU07 and EU08 are not subject to the NSPS, because they are not rotogravure printing presses.

(2) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAPs):

(1) 40 CFR, § 63.820, Subpart KK - National Emission Standard for the Printing and Publishing Industry: This standard applies to major source of hazardous air pollutants (HAPs), at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated.

The six (6) Lithographic Sheet-Fed presses, EU01 through EU06; and Platten Presses, EU07 and EU08 in this application are not subject to the NESHAP, because they are not publication, product and packaging rotogravure printing presses, nor they are wide-web flexographic printing presses, and they are not major for single HAP and combined HAPs.

(2) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

(a) 326 IAC 2-6 (Emission Reporting)
This source is **not** subject to 326 IAC 2-6 (Emission Reporting), because the VOC potential to emit is less than 100 tons per year, and it is not a source located in one of the counties listed in rule 326 IAC 2-6-1(a), which emits 10 tons of VOC per year.

(b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

(a) 326 IAC 8-5-5 (Miscellaneous Operations: Graphic Arts Operations)
This rule applies to packaging rotogravure; publication rotogravure; and flexographic printing sources.

The six (6) Lithographic Sheet-Fed presses, EU01 through EU06; and Platten Presses, EU07 and EU08 in this application are not subject to this rule, because they are not publication, product and packaging rotogravure printing presses, nor they are flexographic printing presses.

(b) 326 IAC 8-1-6 (General Reduction Requirements)
326 IAC 8-1-6 applies to new facilities as of January 1, 1980, that have potential VOC emissions of 25 tons per year or greater if no specific rule in article 8 is applicable.

The source is not subject to 326 IAC 8-1-6 because the source VOC potential emission is less than 25 tons per year.

(c) 326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the printing operation shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$

where: E = rate of emission in pounds per hour and
P = process weight rate in tons per hour
= (3790.38 lb/yr * yr/8760 hrs)
= 0.43 lb/hr, since the process weight rate is less than 100 lbs/hr, the PM emission limit is 0.551 pound/hour. The source is in compliance with this PM emission limit since its PTE is less than what is allowed by the rule.

Conclusion

The operation of this commercial printing source shall be subject to the conditions of the attached Registration 113-15074-00078.

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-15074-00078
Reviewer: Madhurima D. Moulik
Date: Dec 10, 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU01								
Ink Roller Desensitizer	8.0	11.28	20.04 %	20.0%	4.00%	0.00113	0.001	0.000
Blue Etch	8.8	37.24	27.14 %	0.0%	0.0%	0.00505	0.000	0.000
Mitsubishi SLM-OD Fountain Solution	8.6	138.31	7.94 %	10.0%	0.0%	0.00549	0.000	0.000
Isopropyl Alcohol	6.6	4.62	100.0%	0.0%	0.0%	0.00230	0.000	0.000
Pronto Blanket Wash	6.3	308.19	100.0%	0.0%	0.0%	0.15000	0.000	0.000
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000
AABBitt Resin Taperstry Adhesive	9.0	695.6	39.0%	0.0%	0.0%	0.14000	0.000	0.000

Note: These are the worst material used by this press.

State Potential Emissions **0.434** **0.001**

Press EU01	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink	9000.0	173.25	1.143 x10 -6	1.78	30.00%	2.34000

TOTAL Potential Emissions **2.774**

METHODOLOGY

'VOC Emissions = Max. Usage, lb/yr * wt % VOC * ton/2000 lb
''HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-15074-00078
Reviewer: Madhurima D. Moulik
Date: December 10, 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU02								
Ink Roller Desensitizer	8.0	11.28	20.04 %	20.0%	4.00%	0.00113	0.001	0.000
Blue Etch	8.8	37.24	27.14 %	0.0%	0.00%	0.00505	0.000	0.000
Mitsubishi SLM-OD Fountain Solution	8.6	138.31	7.94 %	10.0%	0.00%	0.00549	0.000	0.000
Isopropyl Alcohol	6.6	4.62	100.0%	0.0%	0.0%	0.00230	0.000	0.000
Pronto Blanket Wash	6.3	308.19	100.0%	0.0%	0.0%	0.15000	0.000	0.000
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000
AABBitt Resin Taperstry Adhesive	9.0	695.6	39.0%	0.0%	0.0%	0.14000	0.000	0.000

Note: These are the worst material used by this press.

State Potential Emissions	**0.434**	**0.001**

Press EU02	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink (Rubberbase plus Color)	10000.0	239.63	1.143 x10 -6	2.74	30.00%	3.599

Note: These are the worst material used by this press.

State Potential Emissions	**3.599**	
TOTAL Emissions	**4.033**	**0.001**

METHODOLOGY

ux. Usage, lb/yr * wt % VOC * ton/2000 lb
"HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-15074-00078
Reviewer: Madhurima D. Moulik
Date: Dec 12 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU03								
Ink Roller Desensitizer	8.0	11.28	20.04 %	20.0%	4.00%	0.00113	0.001	0.000
Blue Etch	8.8	37.24	27.14 %	0.0%	0.00%	0.00505	0.000	0.000
Mitsubishi SLM-OD Fountain Solution	8.6	138.31	7.94 %	10.0%	0.00%	0.00549	0.000	0.000
Isopropyl Alcohol	6.6	4.62	100.0%	0.0%	0.0%	0.00230	0.000	0.000
Pronto Blanket Wash	6.3	308.19	100.0%	0.0%	0.0%	0.15000	0.000	0.000
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000
AABBitt Resin Taperstry Adhesive	9.0	695.6	39.0%	0.0%	0.0%	0.14000	0.000	0.000

Note: These are the worst material used by this press.

State Potential Emissions	**0.434**	**0.001**

Press EU03	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink (Rubberbase plus Color)	10000.0	239.63	1.143 x10 -6	2.74	30.00%	3.599

Note: These are the worst material used by this press.

State Potential Emissions	**3.599**	
TOTAL Emissions	**4.033**	**0.000**

METHODOLOGY

'VOC Emissions = Max. Usage, lb/yr * wt % VOC * ton/2000 lb
''HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-14866-00078
Reviewer: Madhurima D. Moulik
Date: Dec 10 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU04								
Ink Roller Desensitizer	8.0	11.28	20.04 %	20.0%	4.00%	0.00113	0.001	0.000
Blue Etch	8.8	37.24	27.14 %	0.0%	0.00%	0.00505	0.000	0.000
Mitsubishi SLM-OD Fountain Solution	8.6	138.31	7.94 %	10.0%	0.00%	0.00549	0.000	0.000
Isopropyl Alcohol	6.6	4.62	100.0%	0.0%	0.0%	0.00230	0.000	0.000
Pronto Blanket Wash	6.3	308.19	100.0%	0.0%	0.0%	0.15000	0.000	0.000
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000
AABBitt Resin Taperstry Adhesive	9.0	695.6	39.0%	0.0%	0.0%	0.14000	0.000	0.000

Note: These are the worst material used by this press.

State Potential Emissions	**0.434**	**0.001**

Press EU04	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink (Rubberbase plus Color)	9000.0	173.25	1.143 x10 -6	1.78	30.00%	2.342

Note: These are the worst material used by this press.

State Potential Emissions	**2.342**	
TOTAL Emissions	**2.776**	**0.000**

METHODOLOGY

'VOC Emissions = Max. Usage, lb/yr * wt % VOC * ton/2000 lb
''HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-14866-00078
Reviewer: Madhurima D. Moulik
Date: Dec 10 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU05								
Ink Roller Desensitizer	8.0	11.28	20.04 %	20.0%	4.00%	0.00113	0.001	0.000
Blue Etch	8.8	37.24	27.14 %	0.0%	0.00%	0.00505	0.000	0.000
Mitsubishi SLM-OD Fountain Solution	8.6	138.31	7.94 %	10.0%	0.00%	0.00549	0.000	0.000
Isopropyl Alcohol	6.6	4.62	100.0%	0.0%	0.0%	0.00230	0.000	0.000
Pronto Blanket Wash	6.3	308.19	100.0%	0.0%	0.0%	0.15000	0.000	0.000
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000
AABBitt Resin Taperstry Adhesive	9.0	695.6	39.0%	0.0%	0.0%	0.14000	0.000	0.000

Note: These are the worst material used by this press.

State Potential Emissions	**0.434**	**0.001**

Press EU05	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink (Rubberbase plus Color)	9000.0	114	1.143 x10 -6	1.17	30.00%	1.541

Note: These are the worst material used by this press.

State Potential Emissions	**1.541**	
TOTAL Emissions	**1.975**	**0.000**

METHODOLOGY

'VOC Emissions = Max. Usage, lb/yr * wt % VOC * ton/2000 lb
''HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

Emissions Calculations
Appendix A

Source Name: **Royal Imprints**
Source Location: **711 Gerber Street, Logonier, Indiana 46767**
County: **Noble**
SIC Code: **2752**
Registration No.: **113-15074-00078**
Permit Reviewer: **Madhurima D. Moulik**

Pollutant	Emission Factor (lb/ton of Lead Melted)	Throughput (tons/year of Lead Melted)	Emissions (tons/year)
PM	SCC 3-60-001-01 7×10^{-1}	1.89	0.0007
PM10	SCC 3-60-001-01 1.8×10^{-1}	1.89	0.00017
Lead	SCC 3-60-001-01 2.5×10^{-1}	1.89	0.0002

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-14866-00078
Reviewer: Madhurima D. Moulik
Date: Dec 10 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU07								
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000

State Potential Emissions	**0.130**	**0.000**

Press EU07	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink (Rubberbase plus Color)	4000.0	150	1.143 x10 -6	0.69	30.00%	0.901

Note: These are the worst material used by this press.

State Potential Emissions	**0.901**	
TOTAL Emissions	**1.031**	**0.000**

METHODOLOGY

'VOC Emissions = Max. Usage, lb/yr * wt % VOC * ton/2000 lb
''HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

Appendix A: Emissions Calculations

Company Name: Royal Imprints
Address City IN Zip: 711 Gerber Street, Ligonier, IN 46767
Registration No.: 113-14866-00078
Reviewer: Madhurima D. Moulik
Date: Dec 10 2001

Material	Density (Lb/Gal)	Maximum Usage lbs/yr	Weight % Organics	wt. % Ethylene Glycol	Wt. % HCl	VOC Emissions (tons/yr	Ethylene Glycol Emissions (tons/yr	HCL Emissions (tons/yr)
Press EU08								
V-120 Roller Wash	7.1	261.29	99.0%	0.0%	0.0%	0.13000	0.000	0.000

State Potential Emissions	**0.130**	**0.000**

Press EU08	Equipment Capacity (sheets/hr)	Maximum Print Area Per Sheet (in2)	Maximum Ink Coverage (lbs/in2)	Maximum Usage Lbs/hr)	Worst Case Ink VOC Content (wt. %)	VOC Emissions (tons/yr)
'Ink (Rubberbase plus Color)	4000.0	150	1.143 x10 -6	0.69	30.00%	0.901

Note: These are the worst material used by this press.

State Potential Emissions	**0.901**	
TOTAL Emissions	**1.031**	**0.000**

METHODOLOGY

'VOC Emissions = Max. Usage, lb/yr * wt % VOC * ton/2000 lb
''HAP Emissions = Max. Usage, lb/yr * HAP wt % * ton/2000 lb
'Ink VOC Emissions = sheets/hr * in2/sheet * lb/in2 * VOC wt % * 8760 hr/yr * ton/2000 lb

8 thermographers @ rated at 0.112 mmBtu/hr
4 heaters @ rated at 0.140 mmBtu/hr
2 heaters @ rated at 0.180 mmBtu/hr
1 heater rated at 0.050 mmBtu/hr
1 heater rated at 0.140 mmBtu/hr

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Small Industrial Boiler

Company Name: **Royal Imprints**

Address City IN Zip: **711 Gerber Street, Ligonier, IN 46767**

Registration No.: **113-15074-00078**

Reviewer: **Madhurima D. Moulik**

Date: **Dec 10 2001**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.0	17.6

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.067	0.067	0.005	0.879	0.048	0.738

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).